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(71) Applicants (for all designated States except US): THE GOVERNMENT OF THE UNITED STATES OF AMERICA, as represented by THE SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES [US/US]; National Institutes of Health, Office of Technology Transfer, Suite 325, 6011 Executive Boulevard, Rockville, MD 20852-3804 (US). UNIVERSITY OF ALABAMA RESEARCH FOUNDATION [US/US]; Suite 1120-G, 701 South 20th Street, Birmingham, AL 35294-0111 (US). WISCONSIN ALUMNI RESEARCH FOUNDATION [US/US]; 614 Walnut Street, Madison, WI 53705 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): NEVILLE, David, M. [US/US]; 9624 Parkwood Drive, Bethesda, MD 20814 (US). SCHARFF, Joshua, E. [US/US]; 4600 Harlan Street, Rockville, MD 20853 (US). KNECHTLE, Stuart [US/US];

2268 Caine Road, Oregon, WI 53575 (US). THOMAS, Judith, M. [US/US]; 217 Brook Highland Ridge, Birmingham, AL 35242 (US). THOMPSON, Jerry, T. [US/US]; 103 Winchester Circle, Goose Creek, SC 29445 (US). HU, Huaizhong [CN/SQ]; Blk D #05-08, 113 Clementi Road, Singapore 129793 (SG). MA, Shenglin [CN/US]; 911 16th Place South, Birmingham, AL 35205 (US).

(74) Agents: SPRATT, Gwendolyn, D. et al.; Needle &amp; Rosenberg, P.C., 127 Peachtree Street, N.E., Atlanta, GA 30303 (US).

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(57) Abstract

Provided are novel DT- and ETA-based immunotoxins and a method of treating an immune system disorder not involving T cell proliferation, comprising administering to the animal an immunotoxin comprising a mutant diphtheria toxin moiety linked to an antibody moiety which routes by the anti-CD3 pathway, or derivatives thereof under conditions such that the disorder is treated. Thus, the present method can treat graft-versus-host disease. Also provided is a method of inhibiting a rejection response by inducing immune tolerance in a recipient to a foreign mammalian donor tissue or cells, comprising the steps of: a) exposing the recipient to an immunotoxin so as to reduce the recipients' peripheral blood T-cell lymphocyte population by at least 80%, wherein the immunotoxin is anti-CD3 antibody linked to a diphtheria protein toxin, wherein the protein has a binding site mutation; and b) transplanting the donor cells into the recipient, whereby a rejection response by the recipient to the donor organ cell is inhibited, and the host is tolerized to the donor cell.

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